THE MEDICAL TIMES.

TUESDAY, NOVEMBER 1, 1870.

ORIGINAL LECTURES.

CLINICAL LECTURE

ON HYDROPHOBIA.

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Delivered Saturday, September 11, 1869.

GENTLEMEN: Since our meeting last Wednesday we have had brought into the wards a case of that happily rare, but terrible, disease called hydrophobia or rabies. I will read you the notes of the case, as they were drawn up by my clinical assistant, Dr. George Pepper, and then make such remarks upon the disease and its treatment as shall seem to be proper.

Con Dougherty, admitted Thursday, September 9, 1869, at 5 P.M. Irish, single, æt. 28, laborer. Has been in America for some time; has always enjoyed excellent health.

On the 10th of February last he was bitten in the thumb by a small dog; which thumb was injured is not known. The dog was a small, mangy cur which was accustomed to live off the garbage in the streets. It was a cross, snappish brute, and had frequently bitten those interfering with it. It snapped at a child soon after biting Dougherty, and was shot the same afternoon by a policeman. The wound inflicted was quite deep, bled freely, and the hand was carried in a sling for several days after. The only treatment was a little whiskey poured over the hand. More attention would probably have been paid to the injury had not two boarders in the same house been brought home at about the same time, injured by a factory explosion. The wound healed up perfectly, and left no scar that can now be detected. Has been feeling slightly out of health for the past month, for the first time in his life. Slight loss of appetite, and constipation.

On Tuesday, September 7, had a marked chill in the morning, and felt chilly and languid throughout the remainder of the day, and did not go to work. Was awakened the next night, about midnight, by a sense of burning thirst, and on going to the hydrant, in the yard, and taking the spout in his mouth, was seized with a violent spasm, accompanied by wild excitement.

From this time until admission the symptoms were as follows: very slight heat of the skin; pulse about 60, with a peculiar deliberate, hesitating beat; manner excited and unnatural; expression of eyes somewhat wild; voice natural; uses many grimaces in speaking; entire sleeplessness; constant intense thirst; tongue moist, and coated with a thick yellowish-white fur; bowels quiet; was able to eat solid food, as bread, or even if it contained much fluid, as watermelon; almost unable to drink any fluid,—this was particularly true of cold water; he seemed better able to take hot liquids; contact of fluid with the inside of the mouth, even before any effort at swallowing was made, brought on violent spasms of the pharyngeal and cervical muscles, with rigidity of the entire body; these spasms lasted but the fraction of a minute (thirty seconds, at most), were attended by lividity of face, and subsided instantly, with relaxation and a sense of exhaustion; if his fingers were dipped into cold water, or a brush or cloth wet with water was placed on the face, as in shaving, or any substance brushed over the face, as in taking off the shirt, or even a puff of air directed against the face, as by fanning, similar though less severe spasms were caused. On the 8th he took four purgative pills, which did not operate.

On admission, he was in much the same condition as above described,—rational, but with a wild, excited manner. Ordered one-half grain of extract of calabar bean, by the stomach, every three hours. Injections of beef-tea and water, which did not remain. Had a hypodermic injection of one-third grain of sulphate of morphia in back of neck at about 10 P.M. Took four doses of the extract of calabar bean.

September 10. Had a quiet night, but slept none, and this morning seemed in much the same condition as yesterday. At about 10 A.M. he was seized with wild, maniacal delirium,—staggering up and down his cell, tearing the bed-clothing, breaking everything near him, striking at everything and everybody with a large brass enema-pipe which he had seized; he was constantly spitting large amounts of frothy saliva over everything near him,—this was apparently automatic, and only to clear the mouth and fauces of the viscid secretion; constantly jabbering and grimacing; his attitude was peculiar,—the shoulders elevated, and the head depressed on chest; no stridulous respiration.

He was strapped to the bed, after a time, and was then found to be insensible; face turgid, livid; eyes deeply injected and turned up; pupils widely dilated; convulsions ceased; pulse 135 or 140, of fair volume; respirations deep, quite regular; heart's action rapid, sounds distinct; body rigid; recti rigid; extremities cool and livid; body only slightly warm, and sweating.

He was etherized, and became perfectly quiet; then one part of chloroform to five parts of ether was substituted, and used whenever he became at all excited, until 1½ P.M., when the anæsthetic was finally abandoned. Hypodermic injections of one-third grain of extract of calabar bean were given at 2, 4, 6, 8, and 10 P.M. He had enemata of beef-tea and water, which, however, were not retained. Was quite quiet during the afternoon, still strapped down; muscles more or less rigid; pulse about 120, feeble; respirations quiet.

At 5½ P.M., he was quiet, perfectly rational; face pale; eyes injected; pupils rather contracted; extremities cool and livid; finger-tips macerated; pulse 120, feeble, irregular; his left arm was liberated from the glove, and he ate several pieces of bread soaked in milk, without any difficulty, but refused absolutely to attempt to drink any fluid, stating that he was afraid to try. On testing the muscular contraction, the flexion of the arm was found to be very feeble; the rigidity of the recti abdominales much less evident, the belly being more supple.

At 12 P.M., when he was to have his hypodermic injection of calabar bean, he was found relaxed, sweating freely, vomiting, and passing large quantities of wind from the bowel; the surface was more or less livid; pulse hesitating, feeble, about 120; respiration quiet and free. The injection was withheld until 3½ A.M.

He was perfectly quiet through the night, though he had occasional slight spasms if air blew directly on the surface or he heard the splashing of fluids; he ate some bread steeped in milk, and a small piece of chicken, but would touch no fluids.

At 3½ A.M., when he had his last hypodermic injection, he was perfectly calm and rational, but was evidently weaker; the vomiting and sweating had entirely ceased, and he seemed very comfortable.

From this time he gradually sank, and died quietly, of asthenia, at 9·40 A.M., Saturday, September 11, 1869.

Now, gentlemen, you have heard the details of the case as it unfolded itself before us. The disease has been divided, by some writers, into two stages: the first, or prodromic stage, during which the patient is simply depressed in spirits, seeking solitude, or moving about restlessly and yet avoiding company. He complains of a feeling of dread and impending trouble, sighs deeply, is unable to sleep, and has already a sense of respiratory distress, which is soon to increase and run into the dreadful gasping and convulsive movements of the breathing apparatus which constitute one of the most marked symptoms of the fully-developed disease. This is called the *stadium melancholium*. After a few days—two or three, generally—this passes into the second stage, which has been called the *stadium convulsivum, hydrophobicum*, or *furibundum*. Our patient was brought to the hospital just at the close of the first stage, so that we had no opportunity of seeing the exact symptoms of that stage. On the morning of the 10th of the month, and less than a day after his admission,

the second stage had developed in all its terrible force. When I reached the house, at eleven o'clock that day, he had been for one hour in a most violent paroxysm of delirium. I saw in this hospital, in the years 1838 and 1839, before the insane patients had been removed to the new hospital over the river, many violent cases of acute mania; and since then, in private practice and in this house, among the delirium tremens cases, I have had to look upon many painful scenes; but never have I gazed upon a more frightful exhibition of insane violence than the one I saw here in the person of that poor fellow. For one hour he had been alone in his cell, with the bed-furniture all tossed about the room, himself armed with a large metallic syringe, roaming about from the bed to the floor, from the floor to the table, and back from the table to the bed, with a trembling, uncertain, stooping gait, his face distorted, his mouth constantly spitting a most abundant frothy and viscid saliva over himself and all the articles about him, his eyes haggard, without expression, except one of dreamy horror, sometimes staggering, sometimes falling, and exhibiting one of the most pitiable and appalling sights I have ever seen. Such was his appearance that none of the attendants had been willing to go into his room. I procured a small mattress, and, taking one of the assistants with me, had the door opened, and, holding the mattress before us, so that he might not, in his delirium, strike us, advanced directly upon him. He made no attempt to injure us, but as soon as I grasped one of his arms, and the assistant the other, he said, in distinct tones, "I won't hurt you, I don't want to hurt you," and yielded to us with very moderate resistance. The mattress was laid upon the bedstead; we placed him on his back upon it, and secured him with the straps used for the delirium tremens patients when we find them exhausting themselves dangerously by incessant movement. I then etherized him at once, and he very soon became still, and we had no more difficulty in carrying out the treatment that was necessary. The horror his appearance had inspired will be made more intelligible to you when I tell you that his own brother was afraid to sit by his side to administer the ether on the sponge, dreading infection from the constant stream of saliva which he kept puffing from his mouth.

Knowing that ether and chloroform and all the narcotics had been repeatedly tried in vain in these cases, I determined to continue the calabar bean, the Physostigma venenosum, which has been found, in the last few years, so useful in tetanus.

During the first night of his stay in the hospital (that of the 9th) he had had four doses of half a grain of the extract, given by the mouth, and yet the next day at ten the violent maniacal attack had come on. After he had been secured upon the bed and etherized, I found that the muscles of the body and those of the neck were very rigid. The abdominal walls were as hard as board. It was thought best to use the remedy by the hypodermic method. It was administered in this way, therefore, in doses of a third of a grain, at 2, 4, 6, 8, and 10 P.M. At 5½ P.M. he was very quiet, and he was partially released from the straps. At midnight his muscles were found to be much relaxed, he had been vomiting, flatus was passing freely from the bowels, he was less livid, the respiration was quiet and easy, and the pulse was feeble and hesitating, and about 120 per minute. Under these conditions, it was thought safest not to use the extract, and no more was given until 3½ A.M. of the 11th. At that hour he was perfectly calm and rational, the vomiting and sweating had ceased, and one more injection was used. From this time he gradually sank, and died quietly at 9·40 in the morning.

I confess that at one time I began to hope that this new remedy might be about to achieve a great medical triumph for us,—to cure an undoubted case of hydrophobia; but it was not to be, and this terrible and probably invariably fatal disease had added yet another victim to its list. Nevertheless, gentlemen, it seems to me that the quiet and ease which this poor fellow experienced during the last sixteen hours of his life were owing to the action of the bean upon his nervous system. It had done for him what it has done for a considerable number of cases of tetanus,—it had unlocked the rigid contraction of the voluntary muscles; and we may hope that in some future case a more exact knowledge of the precisely accurate method of using this powerful and wonderful agent may yet enable us to master this most intractable and fatal disease.

Hydrophobia is caused in man, so far as we know, only in one way,—by the introduction into the body of a specific animal poison formed in the saliva of certain animals. The mode of transmission is nearly always by a bite from the affected animal. The saliva applied upon an abraded surface in any other mode will, however, sometimes produce the same result; though nearly all the cases on record have been caused by a bite. Drs. John and Arthur Gamgee, of London, very high authorities on the point, state, without hesitation, their belief that the poison arises in dogs and other animals only by inoculation from other animals.

The dog is the animal who most frequently inflicts the disease upon man. Wolves and foxes are liable to it also, and the former have quite frequently given it to man. Besides these animals, martens, badgers, and pigs are known to be liable to it, as are also, though more rarely, horses, oxen, sheep, deer, and other herbivorous animals.

The frequency of the disease is variable in different years. Mr. Wm. Youatt stated, in evidence before a committee of the House of Commons in 1830, that he had applied lunar caustic to about four hundred people who had been bitten, and yet Drs. John and Arthur Gamgee say that, though more or less connected with veterinary colleges in England since 1849, not a single case of rabies has come under their observation at home, while many instances were seen by them abroad (on the Continent) on almost every occasion when they visited foreign schools. When in Lyons and Paris, in 1854, many were the cases they saw; and often they met ladies unconsciously carrying their rabid pets to be visited by the professors. I myself saw a case in this hospital, in a man, when I was a student of medicine, and two (including the present one) since I have been one of the physicians to the hospital. I have been twice called in the night to see cases in my private practice. One of these occurred in the country, about three miles from town, in a child ten years old. It had died a short time before I reached the house. The other case occurred in a young man on Thirteenth Street; he also had died before I arrived. This makes five cases that I know of in my own experience. The disease is, therefore, not so very rare in this city.

The period of incubation in man is very variable. Usually it is between four and eight weeks; but it has been known to occur as early as eight days after the bite, and to be as long as eight or nine months, and in one very remarkable case it seems to have broken out seven years after the bite.

The diagnosis of the disease is not, it seems to me, difficult. The only affections with which it would be at all likely to be confounded are hysteria, acute mania, and tetanus. I can only say that I never saw hysteria even slightly resemble it. I had one patient, a nervous, timorous woman, who always had some slight difficulty in swallowing water, when her health was disordered; but in not one of several attacks in which she had this symptom was there any resemblance to true rabies.

Acute mania is sometimes attended with frequent expuition of saliva, but the other symptoms do not resemble those of rabies, and the expuition of saliva has not the violence and constancy of the effort to be seen in rabies, nor is the saliva so viscid or so abundant. I have never seen a case of mania which at all impressed me as has rabies. Tetanus, when the pharyngeal muscles are spasmodically closed, may present some resemblance to rabies, but its supervention on injuries, the fact that the spasms are not intermitting, that trismus usually exists, the absence of the distressing thirst of rabies, and of the copious expuition of saliva, and the rare occurrence of delirium in tetanus, will generally remove all difficulty in the differential diagnosis. Trousseau gives two curious cases of what he calls mental hydrophobia, occurring in men who supposed they had been inoculated by rabid dogs. One stated that a dog, who was proved to be mad by having imparted the disease to other dogs which he had bitten, tried to bite him. This gentleman, some months after this event, suddenly, after eating a very hearty breakfast, exclaimed that he was seized with hydrophobia. He could not eat or drink, and was beginning to rave, when his wife, who only believed that he had eaten too much, persuaded him to tickle his throat with his fingers. Copious sickness soon came on, and the supposed rabies was gone. Another gentleman, a judge, had a favorite dog, which, in his rides, often jumped to kiss the hand which held the whip. After one of these rides the dog became mad, bit several sheep and dogs, and soon died. Shortly after this the judge learned that several of the dogs that had been bitten had died of rabies. He became alarmed on reflecting that the dog had licked his hand several times, and, finding the traces of several small scars on his hand, fancied he had been poisoned, and, believing that he had hydrophobia, was afraid to touch water. A medical man was called in, and he was for several days excited and delirious. Being told that persons seized with rabies died in a very few days, and that his dread of water, which had lasted ten days, could be only the fruit of imagination, he finally became convinced of the true nature of his case: the dread of water vanished when he became convinced that he would have died several days before had he had a true hydrophobia. These cases are instructive, and may, some of these days, be of service to you in practice, should you happen to be called to such.

The best writers on this disease state that it has never been cured, and that the only good the physician can do is to comfort the patient by such means as allay the suffering inevitable in the disorder. In the case which has just been described to you, the use of the ether and chloroform inhalation very soon removed the delirium and the general distress of the patient. The extract of the physostigma certainly seemed to remove the convulsive and tetanoid spasms of the patient, and, though he could not swallow fluids, he was able to take small quantities of bread softened in milk, and was very calm and easy.

But, whilst we cannot cure the disease when it once sets in, there is no reasonable doubt that it may be prevented by a proper treatment of the wound at the time of the bite. This preventive treatment consists simply in the use of means intended to prevent the absorption of the poison from the wound. This end is secured by any means which shall destroy the tissues at the point bitten. If possible, the edges of the wound may be excised; but, whether this is done or not, the tissues at the seat of the bite must be destroyed by the use of the actual cautery or some escharotic. Youatt, the great English writer on the disease, a man who had a very large experience in this matter, always used the solid lunar caustic. A piece of this salt should be rubbed thoroughly over the whole of the wound, great care being taken that it reaches every portion of the wound. I have myself applied it in several cases, and I always bring it first to a sharp point, pass it slowly along the edges, and push it into the deepest parts of the wound two or three times, holding it for several seconds in contact with all the parts of the lacerated tissues, until I feel sure that they are thoroughly blackened and cauterized. I saw, several years ago, a young gentleman, in this city, who had been bitten deeply in three places on the forefinger by a young terrier dog who was undoubtedly mad. I treated the wound carefully in this way, and he never had any trouble from the accident.

You should be acquainted with the signs of rabies in the dog, in order that you may know when there is a necessity for resorting to these means; but, as you will find them detailed in various works on medicine, I will not detain you by an enumeration of the symptoms. I will merely say that when there is the slightest doubt about the fact of a dog who has bitten one of your patients being hydrophobic, you should never hesitate to use the caustic or the actual cautery.

The results of the post-mortem examination I will give you at some future time, after they have been properly elaborated.

(To be concluded.)

ORIGINAL COMMUNICATIONS.

RETENTION OF URINE FROM IMPASSABLE STRICTURE.

RELIEVED BY OPENING THE URETHRA BEHIND THE STRICTURE; WITH SOME REMARKS UPON THE OPERATION AND THE PROPRIETY OF PRACTISING IT IN PREFERENCE TO PUNCTURE OF THE BLADDER.

Being the substance of a Clinical Lecture delivered at the Jefferson Medical College, May 4, 1870.

BY S. W. GROSS, M.D.,

Lecturer on the Diseases of the Genito-Urinary Organs.

RETENTION of urine is a complication of urethral stricture not unfrequently met with; but, fortunately, the vast majority of such cases yield to chloroform and the proper use of the catheter or the conical steel sound. When a man is suffering from a distended bladder dependent upon a firm, tight stricture, the young practitioner must be careful not to be cajoled into the idea that if a small metallic or flexible instrument cannot be passed, or even entered, the urine must of necessity be evacuated by tapping the bladder. Let him rid himself at once of overcautious timidity in introducing metallic instruments. Let him forget the teachings and writings of certain contemporaneous surgeons, who have instilled into his mind that anything like force is to be avoided, and who have done incalculable harm by surrounding the subject with mysterious difficulties and dangers which do not exist. On the contrary, when the life of his patient is at stake, he must repose firm faith in his catheter and act with decision. Taking a medium-sized instrument, the point of which should correspond with the narrowness of the stricture, and should never be less than No. 1, English gauge, for fear of perforating the canal, and carrying it down to the seat of the obstruction, the penis at the same time being put upon the stretch, by making slow, firm, steady, and long-continued pressure, he will succeed, nine times in ten, in overcoming the so-called impermeable stricture and in affording relief. Should the obstruction be so obstinate as to defy this means, or should the urethra be lacerated and a false route be commenced, forcible attempts must, of course, be at once abandoned and other measures resorted to. Let

me not be misunderstood: I do not advise rudely driving an instrument onward into the bladder in spite of every obstacle; for, although it may be readily done, and be followed by immediate relief, the worst consequences would be liable to ensue. But I do mean to say that if teachers would talk less of the dangers of using "force,"—which is merely a relative term, and conveys to the inexperienced mind any or all procedures which draw blood from the urethra,—and would drop the expression altogether, and teach their classes to rely upon a silver or steel instrument, instead of wasting time and poking about with small flexible ones, and direct that such an instrument be used with gentleness, albeit with firmness and decision, such authorities would send forth better practitioners, avoid useless operations, and spare lives.

Instances of complete retention from tight, chronic stricture do, however, occasionally occur, which defy all attempts to pass a catheter, even in the hands of the most expert surgeon; and in such cases success is rendered impossible, either from neglect on the part of the patient or from previous improper treatment. Immediate relief is demanded from the urgency of the local and constitutional distress. There is danger of the urethra giving way behind the obstruction, particularly when it is of very long standing; or extravasation of urine may have actually begun. In such an emergency the attendant must be equal to the occasion. There is no time for deliberation. An artificial passage must be secured to the urine, either by opening the urethra from without, or by puncture of the bladder, according to the circumstances of each particular case.

When the retention is due to impassable stricture of the perineal urethra, or that portion of the canal seated behind the scrotum, the only operation that should be performed is that of dividing the stricture, either from before backwards upon the point of a catheter, as in the old and difficult perineal section, properly so called, or of laying open the urethra behind the contraction, with subsequent division or not of the latter, as the operator may see fit. In either event, a free outlet is at once afforded to the pent-up urine, and the cure of the stricture is begun.

When, on the other hand, the retention is due to impassable stricture of that portion of the urethra covered by the scrotum, or the portion in front of the scrotum, incisions practised from without are not proper, owing to the liability to urinary infiltration in the former case, and to the difficulty of closing the wound when the penile urethra is opened. Internal urethrotomy with a lanceted stylet protruded from a canula, as in Physick's or Stafford's instruments, may be resorted to; but the uncertainty and hazard of using such contrivances without a guide are too well known to be dwelt upon here. What, then, should be the line of conduct in such an emergency? Ordinarily, vesical puncture, most often by the rectum, has been the rule. Rather, however, than puncture the stricture or the bladder by any of the usual routes, I should myself prefer to open the membranous urethra; and this I should do with three objects in view: first, to empty the bladder; secondly, by diverting the urine through a new channel, to give the urethra, at the seat of the obstruction, time to recover from the irritation and pressure of the urine to which it had been long subjected, and thereby facilitate its future treatment; and thirdly, to place the prostate gland and the bladder at rest, whereby they would be enabled to recover from the effects of the constant and laborious work in which they had been long engaged.

The subjoined case of retention of urine from impassable stricture of the scrotal urethra will illustrate what, in my judgment, is the proper course to be pursued in all similar instances:

On Wednesday, the 4th of May, I was called to G. P., a butcher, aged 36 years, of temperate habits and good general health, whom I found walking up and down his room in great distress, his heart and brain being much excited, while his hypogastrium was tumid, tender, and painful. Fifteen years previously he contracted a gonorrhœa, which was of a severe nature, being attended with frequent chordee and hemorrhage, and one year subsequently he first noticed signs of obstruction. For the past eighteen months the stream of urine was not larger than an ordinary knitting-needle, and at times it was even smaller, or trickled away by drops, and the act of micturition required at least ten minutes, or longer when the call was not at once attended to. He had never undergone treatment, nor was he aware of the precise nature of his trouble.

On the previous Monday morning, at four o'clock, he did not succeed entirely in emptying his bladder, the urine issuing at first in a slender stream and afterwards by drops. Throughout the succeeding twenty-four hours the calls to micturate were frequent, and the act was much prolonged and performed guttatim. This state of affairs continued until early on Tuesday evening, when complete retention set in, depriving him of rest and sleep during the entire night, on account of severe suffering and vesical tenesmus, which obliged him to pass the interval between ten o'clock and daylight on his *pot de chambre*, in fruitless and forcible efforts to obtain relief. When I saw him, at eleven o'clock on the following morning, the bladder formed a tense and tender tumor, which extended two-thirds of the way to the umbilicus; he experienced pain above the pubes and in the back and loins; straining was constant and very distressing; the pulse was excited, and the skin hot. Exploration showed a stricture near the meatus, which having been divided with a probe-pointed bistoury, a No. 8 English gauge silver catheter was inserted, but it was arrested just in front of the peno-scrotal junction, where a stricture could be detected by external manipulation, which imparted to the touch the sensation of a dense ligamentous cord.

Being alone and without the necessary appliances, I had the patient removed temporarily to the college hospital, where he was put to bed. Chloroform having been administered, and oil injected into the passage, slow, steady, continuous pressure was made against the face of the obstruction, first by the catheter, and then by conical steel sounds, the point of the smallest of which was rather less than No. 1, English gauge, the penis at the same time being put upon the stretch. Failing in effecting penetration, these instruments were laid aside, and elastic catheters and bougies, descending in size to No. 3, French gauge, the diameter of which is about the one twenty-sixth of an inch, were substituted. Patient efforts to insert any of these into the stricture were also fruitless, when I selected a whalebone filiform guide, the probe-point of which measured one-fifth of a millimetre in diameter, with the view of testing the retention catheter of Professor Gouley.* This little instrument passed, apparently, through the obstruction into the bladder, but it was impossible to carry the catheter over it and others used for the purpose, on account of the whalebone being stripped up by the end of the catheter, which prevented its onward passage. Indeed, I did not feel quite sure that the guide had penetrated the stricture, since, from its firm, unyielding character, it is liable to make a false route, which I consider the great objection to its employment. I was therefore not at all sorry that the catheter could not be passed over it.

All means for procuring the discharge of the urine by the natural channel having signally failed, and in view of the urgency of the symptoms and the dangers of delay, the only remedy left was to relieve the bladder by making an artificial opening into some point of the urinary organs. As I do not regard puncture of the bladder above the pubes a proper, or even desirable, operation, except in cases of retention from prostatic tumors, my first thought was to tap that viscus through the rectum; but examination disclosed so much hypertrophy of the prostate gland that my finger could not be carried to its posterior border, thereby excluding that proce-

* *Medical Record*, May 15, 1869.

dure. While my finger was in the bowel, and in contact with the prostate, it occurred to me, however, that the membranous urethra could be readily opened through the middle line of the perineum, the apex of the prostate serving as a prominent landmark, through which operation a free and direct outlet for the urine would be afforded. Taking my seat on a low cushion in front of the perineum, the patient having been placed in the usual lithotomy position, I passed my left index finger, with its palmar surface upward, into the anus, and brought its tip in contact with the apex of the prostate, the bulge of the rectum having been effaced as much as possible by carrying its anterior wall backwards by my nail during the introduction of the finger. I then placed the point of a long, straight bistoury in contact with the raphé, five lines in front of the anus, the back of the knife presenting towards the bowel, while the handle was somewhat depressed, and, thrusting it upwards and backwards, as if to strike the tip of my finger, I succeeded in puncturing the membranous urethra at about its centre, as was indicated by the escape of bloody urine. On withdrawing the knife, I enlarged the urethral wound, and incised the superficial structures exactly in the middle line and upwards towards the scrotum to the extent of nearly one inch. Through the free opening thus made the urine gushed in a full stream, when a flexible No. 10 English catheter was inserted into the bladder, by which the remainder of the urine was drawn off, the total amount having been about three pints. There was pretty smart hemorrhage from the division of the bulb, probably to the extent of ten ounces, but, as it seemed finally disposed to coagulate around the catheter, this was allowed to remain, its projecting portion having been cut off. The patient was put to bed, with a sponge between his thighs to absorb the urine which was constantly trickling from the catheter, and one-third of a grain of morphia was thrown under his skin. To Dr. Graham, Dr. Dickson, Dr. Barton, Dr. Hearn, and Mr. Newcomb, I am indebted for their assistance during the operation.

Without entering into minute details, the following condensed notes from the daily record will indicate the progress of the case. 5th, A.M. Passed a good night, and expresses himself as entirely relieved; the catheter escaped from the bladder during the night, and clear urine is passing by the incision. 6th, A.M. Suffered from chilly sensations yesterday afternoon, followed by slight fever and nausea. 7th, A.M. The urine has ceased to trickle from the wound, it having been passed voluntarily by that route last night, and at five and ten o'clock this morning; some fever. 9th, A.M. Patient will be permitted to go home to-day. Herpes phlyctenodes abundant about the lips, nose, and cheeks. Has been retaining his water for four or five hours at a time. 28th. Herpes has entirely disappeared, and he has been sitting up for the past week. The perineal wound has contracted to one-fourth of an inch in length, but it permits the free escape of the urine. For the past two days, at each act, a few drops have passed by the natural channel, and a No. 4 bougie, French gauge, penetrated the stricture. 29th. Under chloroform, a conical steel sound, the point of which measured No. 2, and the shaft No. 8, English gauge, entered the bladder without much difficulty, when it was replaced by Richardson's dilator and a No. 12 rod forced between its blades. A free passage having been made by these measures, I was enabled to introduce a urethrotome and divide the stricture, which was two inches long, from behind forwards on three sides, which I deemed advisable to insure a better chance for permanent relief. A No. 22 French vulcanized india-rubber catheter was then tied in. 30th. No urethral fever; slight purulent discharge at the meatus; but, as the instrument is tightly grasped by the urethra, and is giving rise to no inconvenience, it will be permitted to remain. June 1. The catheter came away early this morning. 3. Introduced a No. 14, English gauge, steel sound with the greatest ease, and the patient was directed to take out-door exercise. 9. Perineal wound has closed; the same sound has been used every forty-eight hours, and the patient resumed his business three days ago. Subsequently a No. 22 French bulbous ended bougie, which is equivalent to No. 12, English gauge, was introduced by the patient at intervals of two days for three weeks, then every four days for a month, and he now employs it at intervals of one week.

Remarks.—The preceding case of retention of urine is the only one that I have ever met with in which I have felt it incumbent upon me to establish an artificial channel for its evacuation. Here was a chronic, narrow, indurated stricture of the scrotal and antescrotal urethra, temporarily obstructed by spasm and congestion, which would neither admit an instrument nor permit the flow of urine. Deeming external urethrotomy, particularly without a guide, a bad procedure, on account of the hazard of urinary infiltration and the difficulty of closing the incision, I chose an operation, in preference to vesical puncture, which fulfilled perfectly the objects for which it was designed,—namely, the immediate relief of the retention, and the subsequent spontaneous permeability of the canal. Three weeks after its performance some urine made its appearance by the natural passage, and the stricture had so far loosened itself as to admit instruments, through which the normal calibre of the urethra was finally restored. It has long been a recognized fact that when a stricture is relieved from the irritating influences of constant attempts at micturition and the pressure of the urine, it sooner or later becomes so much relaxed as to allow urine to pass and a catheter to enter. This effect may be secured by any of the procedures for emptying the bladder. Hence operations for dividing the obstruction are not always absolutely necessary; and the young practitioner who fears to encounter the difficulties and dangers of cutting through a stricture without a guide, may have the satisfaction of knowing that, by temporarily establishing an artificial route for the discharge of the urine, the local irritation about the stricture will subside and enable him to attempt its management by the ordinary means.

To fulfil these desirable objects,—namely, to unload the bladder and allow the urethra to recover itself,—what operation should be selected? Of the different modes of puncturing the bladder for the relief of retention, that by the rectum is the one usually adopted, suprapubic puncture being restricted to those rare cases of retention from prostatic trouble which cannot be reached by the former procedure. Now, recto-vesical paracentesis is not difficult, neither is it devoid of dangers and drawbacks. During its performance the bladder has been transfixed or missed altogether; the vasa deferentia and vesiculæ seminales have been wounded, and, in one instance at least, the inflammation has extended to the testicle, which suppurated; abscesses have formed between the bowel and bladder in the track of the canula; in one case, narrated by Mr. Erichsen, rectal flatus diffused itself through the cellular tissue of the pelvis and down the thighs and nates, giving rise to emphysema of those parts, and eventuating in the death of the patient; the peritoneum may descend very low and be wounded; a permanent fistule may remain between the viscera; effusion of urine is to be dreaded; both bladder and rectum are opened, when there is no necessity for it; and, finally, enlargement of the prostate forbids its performance.

Such being the dangers and disadvantages of rectal puncture, and the objections to it, laying open the membranous urethra through the perineal raphé, by which an easy, free, and direct outlet is afforded to the urine, is left for the consideration of the surgeon. This operation is neither new in performance or in principle. Indeed, it dates back upwards of two hundred years, it having been first done in 1652 by Mr. Edward Molins, of London,* and was advised and practised in the present century for cases similar to the one I have recorded, in preference to tapping the bladder, by such men as Mr. Grainger, Sir Charles Bell, Sir Astley

* Several Chirurgical Essays. By Richard Wiseman. Second edition, pp. 574. London, 1686.

Cooper, Mr. Liston, Mr. Bransby Cooper, Mr. Arnott, and Mr. Simon, the last-named surgeon having habitually performed it. That it has not continued in favor is, I think, due to the impulse given to recto-vesical paracentesis by Mr. Cock, of Guy's Hospital, which procedure, possibly from its bloodless and apparently simple nature, appears to have completely driven it from the field of operative surgery. At all events, I do not find that it has been practised of late years abroad; and I believe my own operation to be the only one of the kind ever done in this country.

The operation itself being one of great simplicity to the practical anatomist and surgeon, I introduce it to the notice of the profession, in order that it may be fully and fairly tested, with the view to supersede the operations of tapping the bladder. The practitioner who urges the objection—and it is the only one which can be brought against it—that it requires minute anatomical knowledge, forfeits the right to perform it; for if he has not made himself familiar, by dissections, with the relative situation of the prostate, the membranous urethra, and the bulb to the perineal portion of the rectum, he had best practise rectal puncture, or, still better, relinquish the patient to the surgeon who fully understands his business, for he is morally wrong in taking such cases. Performed in the way that I have indicated, nothing can be more simple or expeditious. The membranous urethra occupies a fixed and invariable position in the median plane of the perineum, and in many cases of inveterate stricture at the usual locality it may be felt to be distended by the urine. The prostate gland, which is the great landmark in the operation, also occupies a definite position; and the statement made by some writers that it recedes in consequence of the vesical distention is visionary. Both prostate and membranous urethra are readily distinguished by the finger in the rectum. The space in which the operation is performed is known as the recto-urethral triangle, and examination of a vertical section of the wet pelvis, which passes through the median line of the triangle, will disclose the following relative positions of the parts concerned: Commencing behind, the prostate will be seen lying within one line of the anterior wall of the rectum, which viscus, at the summit of the gland, turns slightly backwards, to terminate at the anus. The bowel forms the posterior wall of the triangle, and it is highly important to note that it forms a marked dilatation above the sphincters, which rises at least half an inch above the dependent anus. The anterior boundary of the space, it will be observed, is formed by the membranous urethra, which curves somewhat forwards, overlapped by the bulb, while the base of the triangle is at the surface and the apex at the prostate, and it is through the soft parts that fill these boundaries that the knife is thrust to open up the urethra. The depth and width of this space vary in different subjects, but numerous observations and examinations made during a series of years enable me to give what I believe to be the average distances in the medium-sized adult. The distance between the verge of the anus and the bulb—the base of the triangle—is four-fifths of an inch, while the rectum is seated half that distance from the bulb. The membranous urethra is situated ten lines in front of the rectum and sixteen lines above the anus; and the antero-posterior diameter of the space, or the distance between the apex of the prostate gland and the external skin, is about twenty lines.

From the preceding considerations, it is obvious that the only structures at all endangered are the rectum and the bulb. Wound of the former viscus may easily be avoided,—first, by carrying its anterior wall backwards by the finger introduced into it; and, secondly, by effecting the puncture with the blunt back of the knife directed towards it. As an additional precaution, the bistoury may be slightly curved, as was recommended by Sir Charles Bell* and Mr. Arnott.† The bulb can only be injured by prolonging the incision made on the withdrawal of the knife too far forwards, and it must, of necessity, be divided by an incision one inch long from a point half an inch above the anal aperture, as I made it. Free hemorrhage is not, however, to be anticipated, particularly if the division has been effected precisely in the raphé. Should it occur, and not cease spontaneously, it can readily be checked by inserting a catheter through the wound into the bladder, and plugging with lint around it. For my own part, I do not consider division of the bulb as a matter of much importance, as any disadvantages that might arise from it are outweighed by an incision which gives a free and direct outlet to the urine. When, however, it is deemed prudent to avoid the loss of blood,—as when the patient's powers are exhausted by chronic urinary disease,—a smaller cut, or a mere puncture, may be made. For this purpose the bistoury may be entered two-fifths of an inch above the anal aperture, and a cut of the same length be made upwards. Limited to this extent, the bulb will not be touched, nor will the rectum be endangered at the point of puncture.

A CASE OF SUCCESSFUL OVARIOTOMY.

BY J. H. GROVE, M.D.,
One of the Surgeons to St. Mary's Hospital.

THE following case is put on record as presenting, in addition to its successful termination, one or two points of practical interest.

Mrs. H. W., aged 62, resident of this city, states that menstruation commenced at the age of fourteen and ceased at fifty-two. She married at the age of twenty-four years, and has borne two children, the first one year after her marriage, and the second one year after the first.

In March, 1867, she noticed an enlargement in the right iliac region, which slowly progressed until August 4, 1868, when I was first consulted by her. At that time the abdomen was larger than at the full period of pregnancy, and there was distinct fluctuation on palpation. I tapped the patient, and removed thirty-eight pints of light-colored fluid, which coagulated firmly when subjected to heat. After the removal of the fluid, a resisting, irregularly-formed mass was felt occupying the lower portion of the abdomen.

From August 4, 1868, to June 28, 1870, I tapped her six times, removing varying quantities of fluid. After each tapping the fluid reaccumulated with increased rapidity, and the tumor was found to have increased in size, making the tapping necessary at shorter intervals, so that the time intervening between the last two was only six weeks. Up to April last her general health continued good; but about that time it began to decline, and she became considerably emaciated.

On June 28, 1870, the fluid had reaccumulated in large quantity,—the abdomen being excessively distended and very tense; there was also œdema of the lower extremities, and the patient was considerably emaciated and feeble; the pelvis was free; the uterus movable, penetrable by the sound, and central. After consultation, ovariotomy was decided upon and performed, the following-named physicians being present: Drs. L. S. Bolles, G. A. Rex, M. D. Jones, of Philadelphia, and J. Ott, of Easton, Pa. Anæsthesia having been produced by the use of a mixture of two parts, by measurement, of sulphuric ether and one part of chloroform, an incision three inches in length was made along the linea alba

* Institutes of Surgery, vol. i. p. 305. Edinburgh, 1837.
† *Medical Times and Gazette*, vol. iv., N. S., 1852, p. 451.

down to the cyst. In consequence of the extreme distention, the presenting cyst extruded through the incision as far as it would admit, pressing against the abdominal parietes with such force that the fingers could not be introduced between them and the tumor until the presenting cyst was evacuated by the trochar. On introducing the fingers, adhesions were found to exist between the tumor and abdominal parietes, to separate which it was necessary to enlarge the incision so as to measure four and a half inches. After this, the hand was introduced into the abdominal cavity, and the adhesions, which extended over a large portion of the anterior and lateral abdominal parietes, were separated with slight force, excepting over a space in the left hypochondrium, measuring about four by five inches, where it required great force to break them up. The tumor was free from connection with any of the abdominal viscera. After the adhesions were detached, a second large cyst and several small ones were evacuated through the opening made in the presenting cyst, giving exit to fluids of different colors and consistencies. The tumor, being thus reduced in size, was drawn through the incision by gentle traction. The pedicle, which involved the right broad ligament of the uterus, was very thick, and so short that to have secured it by the clamp would have caused great traction on the uterus; the base of the tumor, which consisted of a large cyst, was therefore secured by placing Mr. T. Spencer Wells' large clamp about one and a half inches from the pedicle, after which the tumor was severed and the clamp placed upon the surface in the usual manner. No hemorrhage occurred, so that no ligatures were required.

After carefully applying the clamp, and removing the tumor, the hand was passed down into the pelvic cavity, and the left ovary examined and found to be healthy. The uterus also, as had been ascertained before the operation, was perfectly healthy. The incision was closed by four interrupted and three silver-wire sutures. The suture-pins were passed down to the peritoneum, but did not include it. The silver-wire sutures were superficial.

The tumor consisted of the right ovary, and was multilocular in character, having two very large cysts of about equal size, a great number of secondary cysts, together with a large semi-solid mass; it contained thirty-nine pints of fluid and weighed forty-five pounds.

The patient suffered very little shock by the operation. Immediately before it, the pulse numbered eighty-four, and, immediately after, eighty-eight, varying subsequently from eighty-two to one hundred and six. No nausea or vomiting occurred, and the patient rapidly recovered, without an unpleasant symptom.

The sutures were removed on the seventh day, when perfect union had occurred. The clamp was removed on the ninth day, when it was found that the outer surface of the part of the cyst remaining in contact with the edges of the incision was well united, while the inner surface below the clamp had secreted and contained about a half-ounce of white gelatinous fluid, the same in character as that contained by the cyst at the time of the operation. This left a conical-shaped cavity about two inches in depth, the lining membrane of which was the inner surface of the cyst, and which continued to discharge the same character of fluid for about four days after the clamp was removed, after which the discharge ceased and the surface commenced to granulate. By the use of strips of adhesive plaster over the abdomen, the sides of this cavity were kept in contact, and in a short time united, forming a solid pedicle. This result shows that when an ovarian cyst has no pedicle, or one so short that to secure it by the clamp would cause much traction on the uterus or the broad ligament, the clamp may be placed upon the base of the cyst sufficiently high to prevent traction, and an equally favorable result be expected.

REMOVAL OF A MALE CATHETER FROM THE FEMALE BLADDER.

BY J. C. REEVE, M.D.,
Dayton, Ohio.

IN the latter part of July last, I was called to see a young married woman laboring under unmistakable symptoms of vesical calculus. Her sufferings were extreme; she was compelled to spring out of bed in my presence, get on the chamber-vessel, and strain violently. For relief from these sufferings, she had resorted to large doses of morphia. There was nothing obscure in the history of the case. I was told that, five months before, she had broken off a piece of a catheter in her bladder. In reply to my inquiries as to why she was using such an instrument, I was told it was for "drawing her water." As she was about five months pregnant, others may believe as much of this explanation as they please, and I shall do the same. She had been under the care of three different practitioners since the accident happened, to one at least of whom the same story had been told as above, as he had assured the patient that it would soften and come away with the urine.

Physical examination yielded abundant evidence in confirmation. A large and irregular mass was readily felt up behind the pubes, by the fingers in the vagina, and a silver catheter introduced through the urethra came in contact with a foreign substance in the bladder.

Had not her sufferings demanded relief, her approaching labor would have necessitated the removal of the foreign body; and on the next day I proceeded to operate. I first attempted gradual dilatation of the urethra, by packing the canal full of sea-tangle tents, intending to follow them with tents of compressed sponge; but the pain and distress occasioned compelled me to abandon this plan: it was impossible for her to bear the tents but for a few minutes. I then placed her under chloroform, and dilated the urethra with dressing forceps, followed this with polypus forceps, then introduced my finger, and upon this a pair of lithotomy forceps, and, after two or three trials, dragged out, with no little surprise, an entire gum male catheter of medium size, and measuring nine and a half inches in length! I had caught it near one end, but, in its softened condition from maceration, it readily bent close on itself, and came out thus doubled. The bladder was full of putty-like, calcareous matter, which was turned out with the finger. There were two concretions, however, about the size of chestnuts, evidently accumulations around calculary fragments broken off from the catheter; these I have preserved with the instrument. The bladder was washed out, the patient placed in bed, and made a rapid recovery. She could perfectly control her urine on the day following the operation.

NOTES OF HOSPITAL PRACTICE.

PHILADELPHIA HOSPITAL.

MEDICAL CLINIC, SATURDAY, SEPTEMBER 24. SERVICE OF DR. WILLIAM PEPPER.

JAUNDICE FROM OBSTRUCTION OF THE HEPATIC DUCT.

THE lecturer presented the specimens which had been removed at the autopsy of the patient, suffering with jaundice, who had been before the class on September 10, and briefly recapitulated the points of the case to which attention had then been directed. The patient was a man, aged 65 years, and had been admitted to the medical ward on Septem-

ber 2, 1870. The history obtained from him showed that he had enjoyed good health until four months before admission, when jaundice gradually appeared. The yellowness grew steadily more and more marked, and he lost flesh and strength rapidly. He had never suffered from an attack of hepatic colic; and the present sickness had come on without pain. On admission the jaundice was intense, affecting the conjunctivæ and the whole cutaneous surface; the mucous membrane of the mouth, especially the part covering the inside of the lips and the under surface of the tongue, was also distinctly yellow. His mind was clear, but dull, and he usually lay in an apathetic, lethargic state. His weakness was so great that he rarely left his bed, and his emaciation was extreme. There was entire anorexia; the bowels were constipated, and the stools grayish-white in color, tough, and very offensive. No free fat was observed in the stools. The urine was rather scanty, and contained no albumen, but was dark-brown in color. Tests showed the presence of abundant bile-pigment; but, on applying to it Hoppe's test for bile-acids, none were detected. The abdomen was meteoric from intestinal flatus. The area of hepatic dulness was normal, and no tumor or irregularity of the surface of the liver could be felt. The gall-bladder could not be detected. There was no tenderness over the liver. The skin was usually dry; perspiration, when it occurred, was deeply stained yellow.

In commenting upon these facts at the previous lecture, it had been pointed out that there were no symptoms to indicate that the jaundice was of blood-origin. Nor was there any evidence that it was due to primary disease of the hepatic tissue, destroying its secreting power. On the other hand, the gradual development of the disease, the absence of cerebral symptoms, and the complete absence of bile from the intestinal canal, as shown by the pipeclay-colored stools, all indicated that the jaundice was caused by complete obstruction of the hepatic duct or the common bile-duct. The fact that it was impossible to detect a distended gall-bladder was, to a certain extent, evidence in favor of the seat of obstruction being in the hepatic duct.

The urine had been most carefully examined, in the hope of further confirming this view. When jaundice is due to suppression of the action of the liver, or to blood-poisoning, the urine may be deeply stained, and tests may demonstrate the presence of bile-pigment, but no bile-acids are present. On the other hand, when the liver continues its secreting work, and the gall-ducts are obstructed, so that the bile is reabsorbed into the blood, it would seem that there should be a vicarious excretion by the kidney, not only of bile-pigment, but also of bile-acids. It has been frequently asserted that such is always the case; but the lecturer stated that to his own mind the clinical evidence appeared insufficient. In the present case, therefore, the urine had been carefully tested, and no bile-acids found. It is indeed true that, in cases which are primarily due to mere obstruction, the bile-acids might disappear from the urine late in the course of the disease, owing to the fact that the retained bile compressed the hepatic tissue to such an extent as finally to seriously impair its nutrition and arrest its function. Still, were the above view absolutely correct, the absence of bile-acids might be regarded as powerful evidence against the theory of the jaundice being due to obstruction of the hepatic duct. But the true value of the presence or absence of bile-acids from the urine in cases of jaundice seemed rather to be that, when present, there is strong evidence in favor of the existence of obstruction, but that, when absent, it is still doubtful whether there is or is not obstruction, since it is highly probable that, in some cases, the bile-acids might be retained in the blood, or else so altered and decomposed that they could no longer be detected by testing the urine. Assuming, then, in the present case, that the jaundice was due to obstruction, it remained to determine the cause of this obstruction. These causes may be various, and may be seated externally to the bile-ducts, or within these passages. Thus, pressure on the ducts might be caused by a tumor, either solid or cystic, seated either in the substance of the liver or near its transverse fissure. It has been already noticed that no tumor could be detected in connection with the liver. It is, indeed, true that a small tumor might be imbedded in the substance of the liver so as to compress some of the radicles of the hepatic duct, and yet not cause any perceptible enlargement of the organ. But the entire absence of bile from the intestines would seem to necessitate an obstruction either of the main hepatic duct or the common duct itself, so that we must suppose the tumor, if such there were, to be seated in the transverse fissure.

Hydatid tumors of the liver are extremely rare in this city, and, further, they are usually prominent and readily detected, it being very uncommon for them to be seated near the transverse fissure. On the other hand, the advanced age of the patient, the gradual development of the disease, the intensity of the jaundice, would all seem to point to cancerous disease of the lymphatic glands in the fissure of the liver. Against this view may be urged the rarity of primary cancer of the liver and the absence of pain and detectable tumor in this case; but, on the whole, it must be admitted that this is one of the least objectionable explanations of the obstruction.

Obstructions seated within the bile-ducts may be either due to thickening of the mucous membrane, or to cicatrization following ulceration, or to foreign bodies, such as biliary calculi. Either of the first forms of obstruction are always preceded by the symptoms of inflammation of the bile-ducts, frequently occurring in conjunction with intestinal inflammation. No such symptoms have been present in the case under consideration.

Again, however, it is very rare for impaction of a biliary calculus to occur without pain, and without there having been a history of previous attacks of hepatic colic. Still, we must admit that a calculus might gradually be forced onwards through the hepatic duct until it finally became impacted and completely obstructed the tube, without giving rise to any severe suffering. The age of the patient was in accordance with such an explanation, and the emaciation and debility could be readily explained by the entire prevention of the entrance of bile into the intestine. After carefully reviewing these points, therefore, it will be remembered that the conclusion arrived at was that the jaundice was due to entire obstruction of the hepatic duct, and that this obstruction was caused either by a cancerous nodule in the transverse fissure pressing on this duct, or, more probably, by the impaction of a biliary calculus at some point of its course. The prognosis was stated to be entirely hopeless, and the treatment adopted was merely palliative. In fact, two days after the above remarks were made he rapidly became worse, the urine grew very scanty, the mind became very dull, and subsequently coma supervened, and the patient died September 14.

At the autopsy, all the viscera were deeply stained yellow. The kidneys contained numerous large cysts. The specimen exhibited to-day is the liver, which is of normal shape, somewhat enlarged in size, but much more dense and heavy than normal, weighing five pounds. The liver tissue is deeply stained with bile, and is coarse-grained, as though in the first stage of cirrhosis. The radicles of the gall-ducts throughout the organ are much dilated, and filled with grumous bile. The larger branches of the hepatic ducts, as you approach the transverse fissure, contain numerous polygonal brownish-black gall-stones. The hepatic duct itself is enormously dilated (at least one inch in diameter) and is filled with very numerous calculi. These calculi, for the most part, measure one-fourth to one-third of an inch in diameter. There is one, however, fully two-thirds to three-fourths of an inch in its measurements, and with rounded edges, which is firmly impacted in the hepatic duct, just above its juncture with the cystic duct. The common duct itself is somewhat dilated, either from the previous passage of smaller calculi or, more probably, from the dilating action of the impacted stone. The gall-bladder is considerably distended with light-colored bile, and contains numerous minute blackish calculi. There is no thickening, inflammation, or ulceration at any point of the biliary passages.

MACMILLAN & Co. have nearly ready for simultaneous publication in London and New York an important work on the Relations of Body and Mind, by Dr. Maudsley, author of "Physiology and Pathology of the Mind." Dr. Maudsley's well-known eminence in mental science will bespeak for this book a welcome from all professional men. It will be published in a handsome crown octavo volume.

THE MEDICAL TIMES.
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EDITORIAL.

ARMY MEDICAL ORGANIZATIONS OF FRANCE AND PRUSSIA.

THE medical record of the great European international conflict of 1870 is an unwritten chapter in the history of the times. The most reliable medical authorities are too busy witnesses and participants in the urgent duties of the field to gather up, as yet, the ripening fruits of their experience, and for the present the scanty information derived from itinerant correspondents of journals is nearly all the material accessible to us. The turmoil and bustle of battle have been incessant, and at this very moment, after but a few short weeks of conflict, it is even possible that the world, in its generous and spontaneous sympathy, may be binding the laurel on the brow of the victor. It takes but little heed, however, of the earnest, unobtrusive, self-sacrificing devotion of the army-surgeon, which is to stamp itself permanently on the after-history of the war by numerous substantial contributions to science, and valuable suggestions for the greater perfection of surgical art. When the hills and valleys once more re-echo with the welcome sounds of peace, the propitious time will come when the now fragmentary history of this great Franco-Prussian struggle will be assigned its proper place in the eventful record of the year. From the available representative men in the profession, let us hope that each nation will select the most skilled and judicious to treasure up and classify the rich resources within their reach.

The medical organization of the Prussian army seems, at the very outset of the war, to have been much more perfect than that of their opponents. The greater readiness with which the former accepted volunteer surgical aid from abroad would not indicate that their service was defective either in numbers or efficiency, but that they received with alacrity such substantial offers of assistance as might alleviate the inevitable miseries of the war. In this they did an impartial kindness to friend and foe alike, for both would eventually be benefited by the additional facilities for relief thus offered. But, apart from all question of volunteer assistance, the complaints of inefficiency against the French regular medical organization have been frequent and earnest, even among their own countrymen, and the feeling was universal, at the outbreak of this war, that no change for the better had taken place, even after the bitter experience of the Crimean and Italian conflicts. The French Minister of War gave a very telling illustration of this, early in the history of the struggle, in his positive refusal to respond to the well-directed interrogation of M. Brenier, a senator, on the subject of the medical organization of the army, its efficiency and its capabilities, founding his excuse for evasion on the shallow pretext that it would impair the feeling of confidence that should prevail throughout the army, although he thus virtually acknowledged that its deficiencies would not stand the crucial test of investigation.

It is probable that some of these weak points have been hastily repaired within the last few weeks; but the rapidly-passing events of the war, which, in their results, were for a while continuously unfavorable to the French, gave but little time to remedy defects which were incorporated into the very structure of the whole medico-military system. In the interval of peace which elapsed between France's last great war and the present, the cause of the wounded seems to have slumbered, and not to have thoroughly awakened until the thunder of artillery resounded near her own homes and firesides. Otherwise we should not have expected to hear from all quarters so many stories of inefficiency in the ambulance system, of such lack of preparation for the certain miseries of a bloody conflict, of the disproportionate numerical ratio of surgeons to the wounded, and of the deficiency of thoroughly systematized modes of relief.

In the *Revue des Deux Mondes* for August 1, 1870, we find, from the able pen of M. Michel Chevalier, a member of the Institute, a carefully-written article, entitled "Des Services de Santé d'une Armée en Campagne," which assumes the importance of a critical review of the action of the government in its mal-administration of the sanitary affairs of the army. From such a source the charges of inattention and neglect carry with them much more weight than if they were the mere transient effusions of irresponsible correspondents of the press. His views are founded on the recorded experience of the Crimean war; and it is painfully evident, from his severe and caustic criticism, that but little improvement had been effected at the time of writing the article, when the nation had already taken the fatal step and plunged into the uncertainties and vicissitudes of war. He charges the government with violating the most important laws of hygiene in the crowding of ambulances, infirmaries, and hospitals, and in the want of proper attention to their ventilation. The official medical authorities have, in their zeal for the public good, reiterated their sentiments as to the pressing needs of the service; and it would naturally be supposed that some attention would be paid to their demands, and the proper remedies applied. The Franco-Austrian war, which followed three years after that in the Crimea, found everything in exactly the same state of inefficiency. In this campaign there were only 132 medical officers for 160,000 men,—an average of less than one surgeon to 1000 men; only nine surgeons of the French army at Milan to more than 8000 badly wounded, after Solferino.

M. Chevalier also animadverts severely on the absence or deficiency of the most indispensable surgical instruments and appliances, etc., contrasts this with the excellent medico-military arrangements in the great American civil war, framed by the government to meet all existing and threatening exigencies, and calls special attention to the fact that in France the army-surgeon is in a state of absolute dependence on the "Corps des Intendans" for all the means of vitality essential to his official existence. It cannot be denied that this subordinate position occupied by the medical corps, in which the commissariat controls the action of the surgeon and limits his sphere of usefulness, —often withholding the needed supplies even when most urgently besought to grant them,—has been the main cause of all the short-comings of the government in its relation to the health, care, and comfort of its soldiers. The comments of medical men of the highest rank in France have been frequent and bitter; and it is exceedingly probable that the Minister of War and his associates would have made it a matter of profound study, had not the war with Prussia burst upon them before their dilatory efforts at the amelioration of the system came to any very promising result. But little can be expected, however, of the government until it learns—what sad experience may now be teaching the whole country—that the laws of hygiene, especially the hygiene of the camp and the hospital, are coequal in importance with public politics or military strategy.

Many of the defects that existed in the medico-military organization of Prussia during the Schleswig-Holstein war were promptly appreciated and speedily corrected by the best civil and official talent of Germany. A thoroughly systematized plan was perfected, partly as the result of the actual experience of the needs of former wars, and to some extent, doubtless, of the advanced civilization of the age. A detailed account of the wonderfully improved sanitary organization of the Prussian army as it existed at the beginning of the present war, bearing upon its face all the evidences of accuracy and reliability, was published in the Berlin special correspondence of the London *Lancet*, a few weeks since (August 6, 1870, p. 202); and, as it is much more available and intelligible than any government blue-book, we extract from it some valuable items of information.

The army medical staff is composed of surgeons of the regular army, and civilian practitioners who are ordered to the military service on the outbreak of a war, all under the command of a general staff surgeon. The number of the first amounts to 900, that of the Landwehr to 1000. But the medical staff is, at the moment war is declared, much greater, because almost all young medical graduates enter the service as volunteers. According to an old Prussian custom, two soldiers per company are, during the general military service, instructed in minor surgery, to be medical servants, with the rank of non-commissioned officers. It is their duty to attend to the orders of the surgeons, and to perform the smaller operations of dressing wounds, etc. There is connected with the medical staff yet another class of soldiers, called the corps of sick-bearers (*Krankenträger*), composed of soldiers who have learned, in a short course, the elements of human anatomy, and the methods of bandaging and of transporting the wounded in a convenient manner. The number of these assistants may amount to 200 for every army corps. Added together, the total number of persons charged with the care of soldiers amounts to several thousand in every 100,000. The vanguard of the army medical service consists of the surgeon accompanying the troops, and of the sanitary detachment; the centre, of the attendance of the ambulance hospitals; and the reserve, of the surgeons of the reserve hospitals. Each sanitary detachment is composed of 2 staff surgeons, 3 assistant surgeons, 5 medical servants, and 125 transporters of the wounded; and it is furnished with two wagons, containing a dispensary, with the usual drugs, instruments, lint, etc. etc., and a number of carts and omnibuses for the transportation of the wounded. The ambulance hospitals, to which these are carried, are headed by a chief surgeon, a surgeon, and three assistant surgeons, with an apothecary, nine medical servants, twelve nurses, and other officers. To its equipage belong two wagons, each containing a complete apothecary's shop, a store of surgical instruments, lint, bandages, etc., and six wagons fitted with all the arrangements for establishing 200 beds. The chief surgeon has to select, near the battle-field, the best buildings for hospital purposes. The reserve hospitals, to which patients are afterwards transferred, are scattered over Germany, in almost every town.

The slight sketch we have thus given of the regular army medical organizations is, as we have already said, founded on the condition of things existing in the earlier days of the present struggle. Sufficient time has not yet elapsed to call forth any authenticated statements to show that the defects complained of have been remedied, or that the government has instituted any radical changes in its system of management. The formation of extensive volunteer organizations for the relief of the sick and wounded, and the establishment of volunteer ambulances by the patriotic contributions of the people of both nations, have fulfilled important missions in the relief of thousands; but it remains to be seen hereafter, when the medical history of the war is placed on permanent record, how much their efficiency has been interfered with by official mismanagement, and by defects that lie at the very root of the whole governmental medico-military system.

ACCORDING to the *Pharmaceutical Journal*, Professor Huxley, in a speech recently made upon the occasion of the distribution of prizes to the students at University College, said that, if he had his way, he would abolish materia medica altogether from the medical curriculum. This reminds us forcibly of the old adage, "A little nonsense now and then is relished by the best of men." And yet our professor has only

mistaken—not for the first time, either—a half truth for a whole truth, and set it forth in his own bluff, slashing, impulsive way. To study materia medica as he appears to have studied it,—to learn the physical properties, method of production, natural history, and characters of the plants concerned, as well as the habits of the natives of the country yielding the drug, and other innumerable details collected by the industry of a Pereira, and this, too, not merely of important drugs, but of every herb and seed, root or leaf, floating in the world-wide commerce of London,—surely this is a burden to make the student sigh for relief.

Enough of the natural history and sources of the more important drugs to make the doctor a man of some culture in his profession should, we conceive, always be taught; yet we make no doubt that in some of our colleges too much time is spent upon these, to the exclusion of the weightier matters of the law.

Leaving out of sight therapeutics altogether, materia medica is by no means comprehended in these not immediately practical details. The physical characters of drugs, their adulterations, their active principles; the appearances and distinguishing tests of the latter; the comparative value and physical characters of the various preparations; above all, the chemical relations of the various drugs and preparations—these and other subjects make the practical part of materia medica, to strike out which from our medical studies would be to introduce confusion, uncertainty,—aye, even lethal ignorance,—into the daily practice.

How often have we seen silly and sometimes sadly fatal mistakes arise from want of such knowledge! Thus, syrup of squills and carbonate of ammonia—both stimulant expectorants—are frequently prescribed together, even by men deservedly high in the profession, through ignorance that, the former being made with vinegar, the combination is equivalent to squill and spirit of mindererus.

Not long since we met, in the country, a physician second to almost none in medical culture, who described three cases of extraordinary collapse with terrific vomiting, following the use of fluid extract of buchu. In the first two cases he had not thought of ascribing the symptoms to the medicine, but in the third, which nearly proved fatal, he could not avoid doing so. On smelling his bottle of fluid extract, which had been furnished by one of our most reliable drug firms, the rank odor of veratrum viride saluted us, instead of the aromatic smell of buchu. How nearly had the absence of some practical knowledge of important drugs compromised the life of his patient!

It is only a few weeks since a fatal case of poisoning occurred in this city from an error dependent upon ignorance which, we venture to say, three out of four practitioners might make. Strychnia was prescribed along with iodide of iron in syrup of ginger, and consequently large crystals of the nearly insoluble iodide of strychnia were precipitated. Everything went well until the patient took the last teaspoonful in the bottle, which contained all of the alkaloid, and consequently killed her.

Did time and space suffice, instances could be multiplied showing the absolute necessity of the study of materia medica to the medical student, a necessity so plain that the non-recognition of it by Professor Huxley excites our astonishment. We would not accuse him of desiring to gain popularity with the students by advocating a decrease in the amount of work required of them, but we do think his assertions show that absence of sympathy with the needs of the practitioner which is often so palpable in those who, although holding some connecting thread with the profession, are yet in reality pure scientists.

It is our pleasant duty to announce that, in consequence of the rapid increase in the list of subscribers to the MEDICAL TIMES, and the unexpected pressure of valuable material for publication, it has been determined to enlarge the journal by four pages. All subsequent numbers will, therefore, contain twenty double-column quarto pages.

CORRESPONDENCE.

DERMATOLOGY ABROAD.

LETTERS FROM L. A. DUHRING, M.D., OF PHILADELPHIA.

VIENNA, June 1, 1870.

PERSONAL observation of the hospitals of London, Paris, and this city induces me to think it may prove interesting to give a brief account of dermatology in these cities,—to examine the manner in which it is taught, to compare the different schools, and notice particularly certain diseases confined almost exclusively to special countries. There are in Europe, at the present epoch, three schools of dermatology, each one holding distinctive theories and opinions, and, as usual in such cases, clinging tenaciously to its own doctrines as the only correct ones. It is only by taking a careful survey of the various hospitals and dispensaries, by looking into their management, comparing statistics, noticing the forms of disease, and, finally, by observing the treatment and its results, that we can arrive at any definite conclusions. Statistics alone will not suffice to give us a correct idea of dermatology; reports of hospitals and dispensaries merely tell us that so many cases were admitted, treated, relieved or cured, and discharged, giving no enlightenment as to the varied aspects of the same disease in different countries. Closer study is needed to show the effect of climate, habits, temperament, and other causes, all of which greatly influence cutaneous affections, deciding their appearance, form, evolution, and ultimate termination. But I shall return to this, and in the mean time speak of the German school as found in Vienna at the present day. The General Hospital, or "Allgemeines Krankenhaus," is a government institution, situated just outside of the centre of the city, and encircled by laboratories, schools of anatomy, physiology, and chemistry, making this literally the students' quarter. The building is old, though in good repair, with accommodations for about two thousand patients; it is the largest hospital in the world, and, for its size, a model of management. As we enter the gate, we cannot help being struck with its vast proportions and the bewildering effect of its innumerable courts and passages. Having found our way through three extensive

courts, or "Hofs," as they are called, a small sign-board over a door notifies us that we have arrived at the "Department for Diseases of the Skin." This consists of eight wards, each containing about twenty-five beds, the apartments being large, well lighted and ventilated. The medical direction of this department is under the charge of Professor Hebra, a man whose renown is so world-wide, and whose name is so intimately associated with dermatology, that the bare mention of it awakens profound respect and admiration. The professor has under his care the variola wards, one male and one female, containing in all forty beds; the secondary syphilis wards, with accommodations for forty patients; and the remaining four wards devoted to the various diseases of the skin. Hence we see the department for these disorders containing beds for two hundred, and these filled to a greater or less extent the year round. Professor Hebra himself examines each and all of the cases, devoting two or more hours every day to the wards, aided by his first assistant, Dr. Moritz Kohn, and other gentlemen, who carry out the various orders. Each ward has its nurses and corps of assistants, the male patients having male nurses, and the female, female, except in the variola wards, where all the nurses are female. At seven o'clock in the morning the professor meets his class of students in the amphitheatre adjoining the wards, and there delivers a clinical lecture upon the cases as they present themselves for inspection. Two wards are carefully examined each morning before the class, and lectured upon according to the importance of individual cases; if the patients are unable to appear in the amphitheatre, they are visited at the bedside. After the hospital patients are disposed of, dispensary cases are brought in: the name and a short history of each entered, an examination and diagnosis made, and the requisite prescription and advice given; if there happens to be an interesting case, the opportunity is seized for a lecture upon its leading features. In this way two hours or more are passed every morning in examining old and new cases, and in studying them as changes appear from time to time. Unless the case be an unsuitable one, he is sent from student to student for examination, the pupil being taught not only to recognize disease at a distance, but to become acquainted with its feel and near appearance. By taking two different wards each day, the six wards will be visited every third day, not including the variola wards, which are seen separately by the professor and such of the students as may desire to study this disease. This arrangement allows one to see the same cases twice a week, to follow their course and watch the result of the treatment. Exclusive of the above-mentioned examination, the first assistant, with his staff, makes a thorough visit to all the wards every day, and reports if there be anything amiss, or if any new cases of interest have entered. The patients brought into the General Receiving Ward are supplied with the clothing of the institution and conveyed at once to the Skin Department, where they are examined, then bathed or not, as the case may require, and placed under treatment. The whole material of these wards is at the disposition of the gentlemen who have been former first assistants of the department, for purposes of study and lecture, there being daily three or four lectures by these "Docents," as they are termed. The first assistant in this department is elected for a service of four years, and may be re-elected, according to the wishes of the directors. Drs. Auspitz, Neumann, and Kohn, names already well known in the dermatological world, fill the positions of Docents in this department; and, without their kind assistance and instruction, the young student of dermatology would become discouraged amid the mass of strange material he is about to study. In connection with the wards are the baths, which form such an important feature in the treatment of this class of diseases. They have a large building devoted to the purpose, and the arrangements are complete for furnishing any kind of bath that the case may require. And now to refer to some of the most important diseases of the skin as found in Austria. As before alluded to, it is a fact well known among dermatologists that diseases of the skin assume different characters and appearances in different countries,—heat, cold, the physical and moral condition having a decided influence upon the skin and its functions. The wards of the General Hospital of Vienna, which may be considered as typical of the dermatology of Germany, contain diseases of all kinds and grades, from the simple case of scabies to the most obstinate and malignant affections, including certain diseases more commonly met with in Vienna than elsewhere. One disease in particular appears to be almost confined to Austria and Southern Germany. I refer to the prurigo as described by Hebra in his work, and designate it the prurigo of Hebra, because it is not the prurigo of English or French writers, but a distinct disease, with well-marked symptoms, running a course emphatically its own, and totally unlike the diseases known in other countries as prurigo. In Vienna this affection is common, there being always from five to ten cases of it in the hospital at one time, whereas in London, among four thousand skin diseases, I did not see one case of the prurigo of Hebra. Several of the leading dermatologists of London informed me that they had never seen a case of prurigo as described by Hebra. At the St. Louis Hospital, in Paris, where in the course of three months I saw about six thousand patients, only two cases of the prurigo of Hebra appeared. One of them was shown to me by M. Hardy, who considers the disease under the head of strophulus, and calls it "*Strophulus prurigineux*." The other case presented itself in the clinic of M. Bazin, who believes the affection to be a scrofulous one, and designates it "*Scrofulide boutonneuse bénigne*." M. Hardy informed me that the disease was met with quite often in summer, but rarely in winter, and that it was very amenable to internal treatment, this being relied upon exclusively. This statement is totally at variance with the views of Hebra, who considers the disease as one of the most obstinate, and though tractable to a certain extent, yet positively incurable. The two cases I saw were undoubtedly the prurigo of Hebra, though light and of a different grade from those met with in Vienna. Why this disease should make such ravages in Austria, be so rare and mild in France, and altogether wanting in England, is one of those enigmas which at present baffles every attempt at solution. Here I can merely touch upon this interesting disease; but the subject is open for investigation, and is one worthy of study. A disease very commonly met with in Austria is lupus, which shows itself in all its forms. I remember, in the winter of 1868, counting thirty-five cases in the department at one time. This affection runs a more virulent and obstinate course here than in France or England. Nowhere else in the world can such terrible cases of lupus be seen as in Vienna; and the treatment is correspondingly severe, the French mode of management having no effect whatever. Cases of scabies are always presenting themselves in numbers, and many of them of long standing, and accompanied by a great amount of eczema. Eczema, uncomplicated, in all its forms,

is always to be found in abundance here, as in other countries. Psoriasis, though very common in Germany, does not exist to such an extent as in England, there being perhaps, on an average, but six or eight cases in the wards at one time. Diseases of vegetable parasitic origin are comparatively rare in Vienna. During a stay of more than a year in the hospital, I saw only four or five cases of favus; in Paris, as many might be seen in the course of a few weeks. The other parasitic diseases, tinea tonsurans, circinata, and versicolor, occur much oftener. Parasitic sycosis very rarely occurs in Vienna,—so rarely, indeed, that for a long time its parasitic nature was denied in this city; yet in Paris this is one of the most frequent of the parasitic diseases. Lichen scrofulosorum appears at the hospital now and then, perhaps in the ratio of a dozen cases or more through the year. Of lichen ruber, throughout the year only three cases applied at the department. Not long since, through the kindness of Dr. Tilbury Fox, I had the pleasure of seeing a case of this rare disease in London. Pemphigus is also a rare disease in Vienna; though I am not prepared to say that it is more so than elsewhere. Purpura, ichthyosis, alopecia areata, zoster, acne, and the numerous other diseases are all found in about the same ratio as in other countries. At certain seasons of the year, variola is rife and the wards are full; but the disease is so thoroughly understood, and the treatment so judicious, that the mortality in the department reaches only the incredibly small figure of three per cent. Concerning the treatment of these diseases, and the various methods pursued in the three great medical arenas of Europe, many interesting facts might be stated; these, however, must be reserved for a future occasion.

OBITUARIES.

Dr. Augustus Waller, F.R.S., died at Geneva, Switzerland, September 18. He was well known as an experimental physiologist, and especially by his contributions to the physiology of the nervous system. For his valuable researches he twice received the Monthyon Prize of the French Academy of Sciences, and, in 1860, the Royal Society's gold medal. He was at one time professor of physiology in Queen's College, Birmingham.

John Bacot, the senior Fellow of the Royal College of Surgeons of England, of which he had been nearly seventy years a member, died recently, in England, at the age of ninety. He was formerly one of the editors of the *Medical and Physical Journal*, and was prominent at all times in the medical benevolent societies of Great Britain. He was inspector of anatomy for London for many years, and left a son in the profession, who had himself recently retired, as honorary deputy inspector-general of hospitals, after twenty-six years' service.

REVIEWS AND BOOK NOTICES.

Practical Anatomy: A Manual of Dissections. By Christopher Heath, F.R.C.S.E. First American, from the Second English Edition. Edited by W. W. Keen, M.D. 8vo. H. C. Lea, Philadelphia, 1870.

This manual differs from others of its kind in a somewhat extended preliminary note to each of its sections, as well as in its descriptions of external surfaces. Surgical teachings are here and there introduced; but, with the exception of those pertaining to the perineum and groin, they are scarcely satisfactory. Many of the figures are retained from the time-honored "Wilson." Among those gleaned from other sources may be mentioned the designs of Messrs. J. T. Gray and G. E. Pearse, as well as the admirable transverse sections modified from Béraud.

The editor's work has been well performed. Not content with simply correcting the proof-sheets,—a style of work too much in vogue among us,—Dr. Keen has shown his desire to adapt the work to the needs of the American student by adding valuable parenthetic notes to almost every page. Many of these are necessarily brief, and are so arranged as not to interrupt the language of the author. The editor's more extended contributions are seen to the best advantage in his remarks on hernia, on the cervical triangles, on the action of the palmar interossei muscles, according to Duchenne, and in an account of the dissection of the eye. The alterations from the original in the arrangement of the chapters are confined to the removal of the sections on the groin and perineum from Part II. to Part III., where they are included under the anatomy of the leg. This is done for the sake of convenience, since, as we are informed, "they are usually dissected with this part, and previous to the dissection of the leg itself."

Kritik der parasitologischen Untersuchungen von Hallier, Zürn und Keber, mit besondere Bezugnahme auf den Typhus abdominalis und exanthematicus, und auf die Pocken und die Revaccination. Von Dr. Rudolf Weise. (A Critique upon the Parasitical Investigations of Hallier, Zürn, and Keber, with Especial Relation to Typhus and Typhoid Fevers, Smallpox, and Revaccination. By Rudolf Weise.)

This pamphlet is especially interesting as confirming the results of Dr. Billings' (U.S.A.) investigations into the reliability of Prof. Hallier's method of research and the truth of his results.

Dr. Weise is even more explicit in his statements than our Washington authority, declaring that he has found Prof. Hallier's work to be "one mass of errors." Dr. W. worked at the bedside day after day, studying all the secretions, the blood, the lymph of pustules, etc., and receiving from all the same answer,—that they contained no cryptogamic growth. Nor was this from want of a sufficiently high power; for he used a No. 10 Hartnach's immersion lens. In his introductory chapter, speaking of the importance attached by some to the possession of a $\frac{1}{25}$ or $\frac{1}{50}$, Dr. W. uses a sentence which, it seems to us, cannot be too strongly impressed upon the mind of the worker. It is, "Not the possession of the most costly microscope, but the method of its use, determines the value of an investigation;" or, as the naturalist Forbes long ago remarked, speaking of the very poor instrument with which his own earlier work was done, "It is not the object-glass at one end, but the head at the other, that constitutes the value of the microscope."

In this connection, it is desirable to put upon record the results obtained at the Surgeon-General's office, Washington, in repeating the experiments of Dr. Joseph G. Richardson, in which he claims to have demonstrated the passage of bacteria and vibrios from the stomach into the blood. It will be remembered that his method was examination of the blood before and after ingestion of putrid beef-juice.

These experiments were repeated in precisely his manner, under the supervision of Dr. Woodward, so often and so carefully, and gave so uniformly negative results, that there can be but little doubt that there was some fallacy in those of Dr. R., and that vibrios do not appear in the blood after the ingestion of matters loaded with them.

In his study of vaccination Dr. Weise arrives at a conclusion which, if true, seems of great practical importance,—namely, that when vaccine lymph is dissolved in glycerine it is much more active, and may be used in smaller quantities with much more certainty, than when in its natural state. His explanation is that in such solution its virtues are unimpaired, and its persistent fluidity gives it much readier entrance into the blood.

A Treatise on Medical Electricity, Theoretical and Practical, and its Uses in the Treatment of Paralysis, Neuralgia, and other Diseases. By Julius Althaus, M.D.

This work appears in a second edition, after an interval of ten years, nearly double the original size, and materially improved. During this period important advances have been

made in the study and development of electro-physiology and therapeutics, and considerable attention has been given to the perfection of the various forms of apparatus used. The limited field of its early application has extended until it claims the daily attention of both the physician and surgeon. Many points of uncertainty have been cleared up, and a definite value has been given to the different kinds of electricity in a large number of diseases. Dr. Althaus presents these clearly and acceptably, in five chapters of nearly seven hundred pages. The first chapter introduces a history of static, dynamic, and animal electricities, the means of producing, and the laws governing them. In the electro-physiology of the second chapter, under the different modifications of form, quantity, and intensity of the current, we have the effects resulting from its application to the brain, spinal cord, sentient nerves, organs of special sense, motor nerves and muscles, mixed nerves, blood, skin, and bones. In the third chapter are given the different forms of batteries and instruments most practicable and desirable for the production of the continuous and induced currents, with directions for their general and special application, both surgically and medically. The fourth chapter relates to the value of the various forms of the current as a means of diagnosis in the lesions of the nervous and muscular systems; while the fifth chapter, which occupies over one-third of the book, is devoted to the consideration of the important subject of electro-therapeutics, where, in addition to the treatment of the general diseases of the nervous system, we have contributions to the treatment of the organs of circulation; the respiratory, digestive, and urinary organs; the male and female organs of generation; tumors, wounds, and ulcers; the introduction of drugs into, and the extraction of metals from, the system by means of electricity; and, finally, the use of electricity in midwifery. The book is well illustrated with a number of engravings, representing the numerous forms of batteries, induction apparatus, and electrodes. The value of the book is further enhanced by the clinical histories which are given, illustrative of the efficiency of electricity, its aid in diagnosis, and the method of applying it.

We have received the first number of the *Photographic Review of Medicine and Surgery*, published in this city by Messrs. J. B. Lippincott & Co., under the editorial management of Drs. Maury and Duhring. It contains four cases of great rarity and interest, each of which is accompanied by a full-page photographic illustration. The letter-press is executed in excellent style, and the photographs might serve as models of the varied applicability and great perfection of this mode of illustration. We cordially congratulate the editors upon the highly attractive appearance of their new journal.

GLEANINGS FROM OUR EXCHANGES.

Pseudo-hypertrophic Paralysis.—Dr. D. Dyce Brown (*Edinb. Med. Jour.*, June, 1870, p. 1079) furnishes an important contribution to the clinical history of this curious affection. It was first accurately described by Duchenne, in 1861, and since then cases have been recorded in France, Germany, and England. The peculiar features of the disease are:

1. A stage of general feebleness and weakness of the lower limbs.
2. A peculiar gait of side-to-side waddling, with unnatural separation of the limbs in walking, for the purpose of obtaining secure equilibrium.
3. A deep anterior curvature in the lumbo-sacral region when in the upright position, due to paralysis of the extensor spinal muscles.
4. A state approaching that of talipes equinus, with clawed nails, owing to the greater degree of paralysis of the flexor muscles of the foot.
5. Marked enlargement of the affected limbs, with apparent hypertrophy of the muscles. In some cases, however, some of the affected muscles waste and undergo extreme atrophy.
6. A stage when the symptoms remain stationary.
7. A final stage, in which the paralysis becomes general over the body, increasing progressively in degree, the patient ending by being unable to move himself off his couch, and generally dying from some intercurrent disease.

As yet our knowledge of the changes of the internal organs, and specially of the nervous system, is purely negative, and limited to a single autopsy. Duchenne is disposed to place the seat of disease in the sympathetic nerves, though no lesion of them has yet been found. The changes in the paralyzed muscles have, however, been carefully studied by removing small pieces of them during life, by means of Duchenne's trochar,—the "emporte-pièce histologique." The apparent hypertrophy of the muscles is due to an excessive increase of the interstitial connective tissue, attended with a considerable formation of fibres with fine undulations (probably empty sarcolemmata), and of adipose tissue. The muscular fibres themselves are pale, reduced in number and size, and have lost, to a greater or less extent, their transverse striation.

In all of the cases previously recorded, the disease has made its appearance during childhood; but in Dr. Brown's case the age of the patient at the commencement of the disease was 26 years. He had been a book-hawker, and quite healthy until the end of April, 1869. The first symptoms complained of were stiffness of the legs in walking, with pains in the thighs. Weakness of the legs progressed, but no enlargement of the thighs was noted till July, 1869, a little over two months after the first symptoms. Three weeks later the calves of the legs had followed in the same enlargement. The legs were very firm and hard, but there was marked loss of power, and he walked with the characteristic waddling gait, with the legs widely separated. The glutei muscles subsequently became affected. The oblique abdominal muscles were also visibly enlarged. In September the arms became affected; but, while the biceps apparently enlarged, the muscles of the forearm and hand wasted. The muscles of the back were not affected. The pain in the legs subsided. There were no cerebral symptoms, though he looked heavy and stupid; no spinal pain or tenderness; no anæsthesia; no increased difficulty in walking with eyes shut. There was no difficulty in urination, and the action of the bowels was regular. In January, 1870, his condition was much the same, with some increase of enlargement and weakness of the affected muscles, and weakness of sight, especially of right eye. During the progress of the observation he gained five pounds in weight (157 to 162). At this time he passed from under observation.

Contagiousness of Tuberculosis. Klebs (*Virchow's Archives*, Jan. 1870). Bernhard (*Centralblatt*, April, 1870).—Prof. Klebs gives a brief résumé of his experiments on animals with regard to the contagiousness of tuberculosis:

1. The "tubercle-virus" is soluble in water, but by evaporation the watery solution is freed from its noxious properties. A fresh alcoholic precipitate, however, contains the infectious material, which, after injection into the peritoneal cavity of guinea-pigs, is absorbed by the lymphatics, and produces an eruption of miliary tubercle.

2. The fact demonstrated by Chauveau, that tuberculosis is caused by feeding cattle on tubercular matter originating in other cattle, is extended by the observation that it is as surely developed if the tubercular material is derived from the human subject. Klebs thinks that on account of the possibility—nay, probability—of the transmission of tuberculosis from cattle to mankind, it is advisable to keep under close observation those animals affected with tubercle. He promises to communicate shortly his investigations concerning the transmission of tuberculosis by the milk of diseased cattle.

Bernhard fed rabbits for months on tubercular lungs, pus which had undergone cheesy degeneration, etc., but in no instance did tuberculosis develop. Subsequently there was an epidemic of enteritis, when, on examining the animals which died, the characteristic alterations of enteritis were found; but, in addition, the lymphatics were filled with a white, fatty, granular detritus, and the glands were enlarged and in spots had undergone cheesy degeneration. In one rabbit, which had never been used for the experiments, but which died from the epidemic enteritis, there was a beautiful eruption of miliary tubercle, which presented the typical miliary, pearl-colored, semi-transparent nodules. Tubercles were also found in the spleen.

In these experiments, therefore, the ingestion of tubercu-

lous material did not produce tuberculosis, while the scrofulous degeneration of the mesenteric glands subsequent to an attack of enteritis was followed, in one case, by an eruption of tubercle.

These experiments, taken with those of Kösler and Ruge, who have demonstrated the frequency of the so-called "spontaneous tuberculosis" in the rabbit, dependent only upon adverse hygienic and dietetic conditions, makes it evident that this animal should not be employed in experiments having for their object the study of the origin and contagiousness of tuberculosis.

SCARLATINOUS NEPHRITIS.—Dr. Baginsky (*Centralblatt*, July, 1870) has made numerous experiments on rabbits, to explain the occurrence of nephritis after scarlet fever. He suppressed the function of the skin, either by painting it over with varnish or by exciting a dermatitis by the use of croton oil. He is led to conclude that extensive inflammation of the cutis results in parenchymatous and interstitial nephritis. Thus, he thinks, many cases of scarlatinous nephritis must be ascribed, not directly to the blood-poison, but to the accompanying dermatitis.

TREATMENT OF SCARLET FEVER AND SCARLATINOUS DROPSY BY BATHS. PILTZ (*Jahrb. für Kinderheilkunde*).—In twelve severe cases of scarlet fever, complicated with diphtheria, the cold-water bath was employed whenever the temperature of the child reached from 38·5° C. to 39·5° C. The temperature of the bath was 25° C., and the time of immersion varied from eight to ten minutes, the bath being repeated, in some cases, every hour. Of these cases five died, while seven recovered; while in no case did dropsy supervene. Cases of scarlatinous dropsy were treated according to Liebermeister's suggestion, by warm baths, the temperature of which was gradually raised from 38° to 40° C. The child was kept in the bath half an hour, and copious diaphoresis kept up for two hours. The result was very satisfactory, the transudation being gradually and progressively absorbed without other medication.

ON QUININE AND ALCOHOL IN PARALYTIC FEVER (*Practitioner*, July, 1870).—In this paper Dr. C. Binz gives the results of his endeavors to trace the method in which these drugs reduce the temperature in fever. He reasons that the cause of heat-increase, observed by Brodie, etc., after division of the spinal marrow, is the separation of the body from a controlling inhibitory heat-centre which he believes exists in the brain. On giving quinine and alcohol to dogs with their spinal marrows divided, in full but not toxic doses, he found that the temperature was decreased, and therefore reasons that these drugs do not act upon the inhibitory heat-centres. Again, it is well known that in certain cases an increase of temperature occurs after death, and, according to Dr. B., quinine and alcohol both prevent this; and from this he argues that they both reduce temperature by checking the chemical activities of the tissues.

IN the *Pacific Medical and Surgical Journal* for June, Dr. W. E. Whitehead commends the use of large doses of ipecac. (grs. viii–xv t. d.) in the treatment of chronic dysentery.

IN an interesting paper in the *Practitioner*, on wines, the editor and staff arrive at the following conclusions:

Sound natural wines are to be obtained most economically from the Bordeaux districts, the red wines being the best.

Rhine wines (white) are equally good, but more expensive.

Hungarian and Greek wines are often very good, but unequal, from defects of manufacture, and too expensive.

The fortified wines (*i.e.* those to which alcohol is added during manufacture) develop no proper qualities till they have been some years in bottle. Sherry is, however, greatly superior to the other wines of this class, in the rapidity with which it develops the volatile ethers, upon which much of the value of wines depends. Sherry is the appropriate stimulus of the enfeebled nervous system of old age, as well as of certain kinds of infantile and youthful debility. Children who are especially benefited by the habitual use of wine are—1. those in whom a tendency to wasting is very marked, *i.e.* those who, *without positively* seeming ill, are very apt to run down suddenly in flesh, with or without loss of appetite; 2. those who readily contract catarrhal affections, which are very slowly shaken off. The best way of administration is in combination with a simple bitter at a fixed time of day. Thus, a child three or four years old may take a teaspoonful of sherry, made up to a tablespoonful with infusion of gentian, three times a day.

UTERINE HEMORRHAGE ARRESTED BY HEAT TO THE SPINE.—Professor Beneke, of Marburg (*Medical Mirror*, from *Medical Record*), has arrested hemorrhage from the uterus, in several cases, by the application of heat to the spine. He thinks much can and will be done by the principle of applying cold and heat to the spine. So far as the heat is concerned, his experience has fully convinced him of its extreme usefulness in certain cases.

VOMITING IN PREGNANCY.—Dr. Carl Both (*Boston Jour. of the Gynæc. Society*) highly recommends, in this troublesome complaint, raw meat chopped up very fine and slightly salted. The doses should be small at first, and then gradually increased.

A CHILD BORN WITHOUT AN OCCIPITAL BONE.—Dr. Cuthbert, who relates this case, states (*Edinb. Med. Jour.*, March, 1870) that there was great difficulty in making out the presentation, and it was at first supposed to be a breech case. The speedy termination of the labor soon cleared up all doubt. There was complete absence of the occipital bone, and in its place a large bulging tumor, the spine ending abruptly. The child lived until the eleventh day, dying in convulsions; it could not nurse, owing to a partial anchylosis of the jaw to the temporal bone.

CÆSAREAN SECTION AFTER DEATH; CHILD SAVED.—Dr. Beckman has published (*Lancet*, July 16, 1870) the case of a woman who, in the eighth month of pregnancy, died of apoplexy. The Cæsarean section was performed within five minutes after the mother's death, and a male child, weighing four pounds, extracted. It was apparently dead; but, by dint of persevering efforts at artificial respiration, life was recalled, and the boy is now three years old. A similar case has been reported by Dr. Ploss.

PREVENTION OF SCARLET FEVER.—Dr. Searcy believes (*Trans. Tennessee Med. Society*, 1869) that the tonsils are the medium through which the system is contaminated by scarlet fever. He contends that he has aborted attacks or mitigated the violence of this disease by swabbing the throat twice daily for several days with a solution of nit. argent., in the proportion of one drachm to one ounce of water. This must be done so soon as the first symptoms of the disease appear.

MECHANISM OF LABOR.—Dr. W. L. Kueneke, Director of the Lying-in and Midwives' Training School at Celle, has been singularly fortunate in discovering the "Four Factors of Labor." The simplicity of the first factor is so striking that we quote it entire from the May number of the *Edinburgh Medical Journal*. "Kueneke's first factor is the mechanical proceedings of labor. It includes the attitude and position of the fœtus, changes in position, mechanism of vertex cases, describing a *synclitic* movement and *cyrtophoric* progression, a *peristrophic*, or *turbinal*, or *rotative* movement, an *enclitic* movement, a *proclitic* movement, and a *cataclitic* movement"! Strengthened by this knowledge, we shall proceed to attend our next case of confinement with much greater confidence.

MISCELLANY.

THE "WELSH FASTING-GIRL."—We clip the following from the *British Medical Journal* for June 25, 1870:

"A return just made to the House of Commons as to the costs of the prosecution of the inquiry into the death of Sarah Jacobs, the Welsh fasting-girl, shows the expense, up to the present time, to have been no less than £378 12*s.* 4*d.*, of which sum Dr. Robert Fowler, physician and expert, claims £193 8*s.* 6*d.* Altogether, therefore, this was a physiological experiment—or imposture, as one may please to call it—of a costly character. If the child had needed, during life,

the sums thus expended, it would certainly have been very difficult to obtain them. It was an unsatisfactory and painful incident throughout, and this is by no means an agreeable souvenir of it."

The same journal, in its issue for July 16, says,

"A true bill has been returned against the father and mother of the Welsh fasting-girl."

SUITS AGAINST PHYSICIANS.—It seems as if there were an epidemic influence prevailing just now, by reason of which these suits are unusually frequent. So far, the profession has maintained its ground, as in the case lately decided in favor of Dr. Sayre, in New York, and another in this city, in which the jury, without leaving the box, pronounced for Dr. Reese, the defendant. But last year a jury brought in a verdict so manifestly unjust, against Dr. Hall, that it was at once set aside by the judge (Stroud). These suits involve a great deal of annoyance and loss of time, not only to the gentlemen who are thus attacked, but to their friends who are called upon to testify. Nevertheless, it behooves us to resist such attempts at levying blackmail upon us (for trials of this kind are usually nothing more), and to aid one another cheerfully, since no one knows when his own turn may come. To buy off a prosecutor would be to inflict an injury upon the whole profession.

IN Wilkie Collins' last novel, "Man and Wife," he makes an attack upon the "training" system. One of the leading characters in the story, an athlete, becomes an epileptic by reason of overtraining; and an astute surgeon is introduced, who detects and predicts the coming mischief. Unless the gifted author of the story should assure us that the set of incidents was founded on facts actually observed by him, we should be inclined to regard the picture as overdrawn, and, therefore, as likely to defeat its own object.

AN "eclectic" school of medicine in this country recently had the impudence to confer the honorary degree of M.D. upon Dr. J. Matthews Duncan, the distinguished obstetrician of Edinburgh. Unfortunately, the matter got into the medical journals before Dr. D. had learned (if, indeed, he inquired into) the character of the institution; and one object of the quacks is, therefore, accomplished.

ONE long-felt want in this city is now about to be supplied. A morgue is in process of erection, at the corner of Front and Noble Streets, under the superintendence of the commissioner of city property.

ON one day in each week a lecture is delivered to female medical students in the wards or amphitheatre of the Pennsylvania Hospital. We believe the cases for illustration are derived from the women's wards only.

DECAPITATION BY HANGING.—At a recent execution in Edinburgh, the experiment was tried of producing instantaneous death by means of a fall, or "drop," of 14 feet, the idea being that fracture of the cervical vertebræ would be caused. The man did, indeed, die instantly, for his head was actually severed from his body. A rope-maker gave the explanation of this singular and frightful phenomenon, which was that the rope used was absolutely unyielding, so that the momentum acquired by the victim's body brought the tissues of the neck against an obstacle like a blunt knife. It was, in fact, an *écrasement* of the head, the écraseur acting with a force and rapidity scarcely to be estimated.

Something similar used to be related in stories of whaling voyages, where the line, in running out, would sometimes entangle the leg or arm of a sailor and instantly sever it from his body.

DEATHS OF DISTINGUISHED PHYSICIANS.—To the long list of "the majority" must be added the names of Sir James Clark, who, nearly forty years ago, was unjustly blamed for his honorable course in the case of Lady Flora Hastings; Dr. James Copland, author of the "Cyclopædia of Practical Medicine;" and Dr. Gunning S. Bedford, a distinguished New York obstetrician.

DR. WILLIAM T. LUSK, of New York, has removed to Boston, to take a lectureship on physiology in Harvard University.

DR. JAMES CUMMING lately brought before the Obstetrical Society of Edinburgh some observations with a view to establishing a stethoscopic test of the sex of the fœtus in utero. His idea was that the pulsations of the heart in unborn males were distinguishably less frequent than in females. But the exceptions to the rule were so marked as to make it practically valueless in any given case.

THE WAR IN EUROPE.—Only very meagre items reach us as yet in regard to the surgical aspects of this great contest. The number of killed and wounded has certainly been fearful. It would seem as if, under certain circumstances, the *mitrailleuse* had proved itself to be a very effectual weapon. It is a modification of what is known in this country as "the Gatling gun." So rapid has been the succession of severe battles, and so great the actual work thrown upon the surgeons of both the contending armies, that it may well be doubted whether we shall ever have their experience put together in an authentic and well-digested form.

MATTER OF FACT.—We copy the following paragraph, *verbatim et literatim*, from the London *Medical Press and Circular* for May 4, 1870:

"*The Boston Medical and Surgical Journal* contains an article 'On the Surgical Lessons of the Late War,' by Dr. Asterisk, who praises very highly a preparation of the portentous name of ichthyocollac preparatæ Spaldingii. This remedy is recommended in cases of alopeciæ, of nervous prostration internally, as a dressing for wounds, etc. etc. There seems to us to be far too many of such preparations in the American practice of medicine."

"Spalding's Prepared Glue" was made the subject, a year or two since, of a burlesque article, by a well-known surgeon in the United States army. At the suggestion of a friend, he sent it to the journal named in the above quotation, in which, to his surprise, it appeared. We hope he will laugh as heartily as we have over the excellent ethics, but stupidity, bad grammar, and bad spelling, of his British commentator.

MORTALITY OF PHILADELPHIA.—The following statements are condensed from the Health Office Reports:

	For the week ending Oct. 8.	Oct. 15.
Diseases of the Brain and Nervous System	37	37
Diseases of the Organs of Circulation and Respiration	78	77
Diseases of the Abdominal Organs	27	37
Zymotic Diseases	11	13
Constitutional Diseases	17	3
Casualties	9	7
Stillborn	11	12
Unclassified	41	38
Unknown	0	5
Adults	118	114
Minors	113	115
Totals	231	229